

FOLIO

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EDMONTON, ALBERTA

20 JULY 1978

SEARCH COMMITTEE FOR A PRESIDENT: PROGRESS REPORT

On 5 July, the Search Committee for a President met with Elden Smith of the Presidential Search Consultation Service of the Association of American Colleges, Washington, D.C.. Dr. Smith reviewed the current expectations of presidential appointees; and how improvements in the process of selection can contribute to effective leadership.

The terms of reference for the Search Committee for a President approved by the Board of Governors in February 1977 are as follows:

- (a) The Board will provide the Search Committee with guidelines and procedures.
- (b) The Board will provide the Chairman of the Board with salary and fringe benefit guidelines with respect to the appointment.
- (c) The Search Committee will recommend two or more nominees to the Chairman and Vice-Chairman of the Board of Governors, and the Chairman of the Finance Committee, who will then determine, by confidential interview with the nominees, whether their salary and fringe benefit expectations fall within the Board guidelines; and also if the nominees are prepared to co-operate in a systematic assessment of their performance during their term.
- (d) The Chairman of the Board of Governors will present the two or more nominees of the Search Committee to the Board of Governors with the recommendations, if any, of the Committee.
- (e) The Board may choose one nominee who will be appointed, or return the matter to the Search Committee.

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M. Ekelund, Vice-President (Academic), Students' Union

Graduate Students' Association

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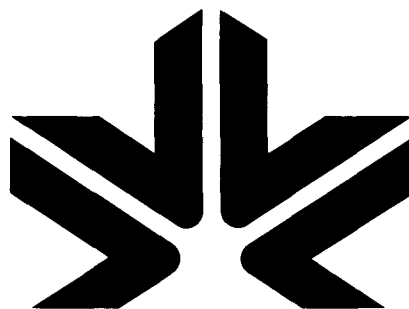
Non-Academic Staff Association

B. Arnold, Department of Electrical Engineering

Secretary

John Nicol, Secretary to the Governors

The position has been advertised in the following publications: the *Edmonton Journal*; the *Globe and Mail*; the *Financial Post* (Toronto); the Association of Universities and Colleges of Canada's *University Affairs*; the Canadian Association of Teachers' *Bulletin*; *Folio*; and the United States publication *Chronicle of Higher Education*.



MASS SPECTROMETRY

The following article, "Mass Spectrometry—its role in the XI Commonwealth Games Drug Testing Program and in medical research," was prepared by R.T. Coutts, Professor of Medicinal Chemistry, and G.R. Jones, Senior Research Associate, of the Faculty of Pharmacy and Pharmaceutical Sciences, and by K. Walker, Director of the Division of Medical Biochemistry, Department of Laboratory Medicine, the University of Alberta Hospital.

Dr. Walker is Senior Co-Chairman of the Commonwealth Games Foundation Drug Testing Committee. Dr. Jones is the Senior

Analyst for the Commonwealth Games Drug Testing Program, and Dr. Coutts is Co-Chairman of the Commonwealth Games Foundation Drug Testing Committee.

The article is published in *Folio* by the kind permission of *Canadian Research* and the authors.

Athletes competing in major national or international sporting events are under tremendous psychological pressures, to perform to the best of their abilities and earn prestige for themselves and their countries of origin. A strong desire to win has encouraged athletes to take drugs to relieve stress and improve performance. In trying to achieve this goal athletes have died, either from drug overdose or from total physical exhaustion, after taking stimulants such as amphetamine.

Evidence of an escalating misuse of drugs at athletic meetings in the 1950s prompted some international sports federations and some individual countries to introduce bans on drug use. However, it was not until the formation of the International Olympic Committee in 1967 that a comprehensive and effective ban was made on all stimulants, narcotics, and related compounds. Up to that time, it was estimated that about one-third of competitors used drugs to increase performance at major athletic meetings, including the Olympic Games. The effectiveness of the ban may be gauged by the number of athletes proved to have taken stimulant drugs or anabolic steroids, at the Montreal Olympics in 1976—eleven of over 2,000 urine samples tested contained banned drugs. Of these eleven "positives", three were stimulant drugs and eight were anabolic steroids. This distribution is not surprising because the 1976 Olympics was the first such meeting where the use of anabolic steroids was officially banned. Prior to 1976, the abuse of steroids was discouraged, but analytical procedures were not sufficiently well developed to permit the banning of an athlete.

During the XI Commonwealth Games in Edmonton, about 400 urine samples will be analyzed, some for all banned drugs and others only for the presence of anabolic steroids. Personnel at both the University Hospital, Department of Laboratory Medicine, and the Faculty of Pharmacy and Pharmaceutical Sciences [at the] University

of Alberta have been developing suitable analytical methods for the past six months. These methods are based on those used at the 1976 Olympics by the Institut National de la Recherche Scientifique (Santé), University of Quebec, Montreal, although some modifications have been necessary to permit inclusion of drugs not analyzed for in previous athletic meetings.

The procedure which will be used for selecting athletes for drug testing will be different from that used at the Montreal Olympic Games. The day before an event takes place, the Chairman of the Medical Commission of the Commonwealth Games Federation, will decide which athletes will have to provide a urine sample for drug screening. This will not be done by picking athletes by name or number but by choosing at random finishing placings in various events before they take place. For example, the athlete who is destined to finish second in the 500 metres race on a particular day may have to provide a urine sample for testing. In another event, the person who finishes fifth may be chosen. The approach is considered a fair compromise between International Olympic Committee policy of requiring the first four finishers in every event to be tested for drug taking and the policy of The Commonwealth Games Federation which is reluctant to police athletes too closely for fear of destroying the "Friendly Games" image. As a condition of recognizing any world records broken at the Games, the International Olympic Committee (IOC) Medical Commission and the International Amateur Athletics Federation (IAAF) require that drug testing facilities are adequate and that any person who breaks a world record

will be advised to be tested for drug use.

Urine samples will be collected from athletes at a specially manned Collection Station at each sports venue. In the presence of the athlete, each urine sample will be divided into three portions, and sealed into individually selected glass containers. The three urine samples will be placed in an individual sealed container which will be transported, with urine samples from other athletes, in a locked metal box, by a bonded carrier, to the drug testing centre. Urine samples will be assigned unique numbers which will identify them from the time of collection until the analyses have been completed in the laboratory. Only the Chairman of the Commonwealth Games Federation Medical Commission will be able to identify the athletes from those numbers. At the laboratory, one of each set of three urine samples will be immediately locked in a freezer where it will remain unopened unless one of the remaining two samples give a "positive" drug test. In this event, the third portion will be unsealed and analyzed in the presence of the athlete concerned, a team official (e.g. coach or doctor) and a medical official representing the Commonwealth Games Federation. If it is confirmed that the urine contains a banned drug, the athlete involved could be barred for life from competing in subsequent amateur international athletic events. A medically qualified clinical pharmacologist and a pharmacist will be available to advise on the suitability of medicines that team doctors and others may wish to prescribe, bearing in mind the extensive list of drugs which are prohibited.

Ideally, a single analytical method should be used to screen for and confirm the presence of all drugs in the urine of an athlete. At present, that is not possible. Drugs are rarely present in amounts large enough to allow their identification without first extracting them into an organic solvent and concentrating it to a small volume. The chemical nature of drugs of abuse, including CNS stimulants, narcotics, and anabolic steroids varies tremendously. Most are basic compounds; a few are acidic or neutral. Some, including morphine, are amphoretic compounds (they possess both basic and acidic properties). Not all can be efficiently extracted from urine. To detect and identify all possible drugs would therefore require an assay process of considerable flexibility. Furthermore, many drugs are extensively metabolized by the liver to more water soluble compounds which may have to be analyzed for if little of the unchanged drug is excreted. These and other factors have necessitated the use of four separate analytical methods for the 150 or

so banned drugs. Three of these methods involve extractions with organic solvents of urine samples at different pH values and subsequent analysis of those concentrated organic extracts on three different gas chromatography (GC) systems. Two of the GC methods are based on those used at the 1976 Olympics (briefly described in *Canadian Research*, May-June 1976); the third has been developed to detect the CNS stimulant, pemolin, the abuse of which has become more common since it is difficult to detect the drug by normal drug screening procedures. The fourth method of analysis will use radioimmune assay (RIA) to screen for the presence of anabolic steroids. It should be emphasized that all four analytical methods are *screening* procedures. That is, they are designed to indicate the presence in urine of a banned drug and provide a tentative identification.

Any biologic fluid, whether it is blood, serum, or urine will contain many compounds, including normal body metabolites such as organic or amino acids, and compounds which result from the ingestion of vitamins or unusual foods. Many of these compounds and their metabolites will be detected in the assay process. These compounds will obviously not always be present in the same proportions or concentrations in every urine sample. It is usually impractical and often impossible to separate, by a solvent extraction procedure, these interfering compounds from the drugs which may be present. Extracts, which, from the results of the initial screening procedures, are suspected to contain a banned drug will be examined using a gas chromatograph linked to a mass spectrometer (GC/MS). The components of the urine extract, including the suspected drug, are separated from one another in the gas chromatograph (GC) and each passes into the mass spectrometer (MS) in a vaporized state. The suspected drug is bombarded with high-energy electrons in the mass spectrometer to form numerous fragments including positively charged ions. The mass and abundance of each positive ion are measured. A plot of the masses (more correctly the mass to charge ratios) versus the abundances of the positively charged ions so formed, is the *mass spectrum* of the drug. Since, with few exceptions, no two different chemicals give identical mass spectra, mass spectrometry is a very specific means of identifying a compound. The mass spectrometer is also a very sensitive instrument which can detect quantities of less than one nanogram (0.000000001 gram).

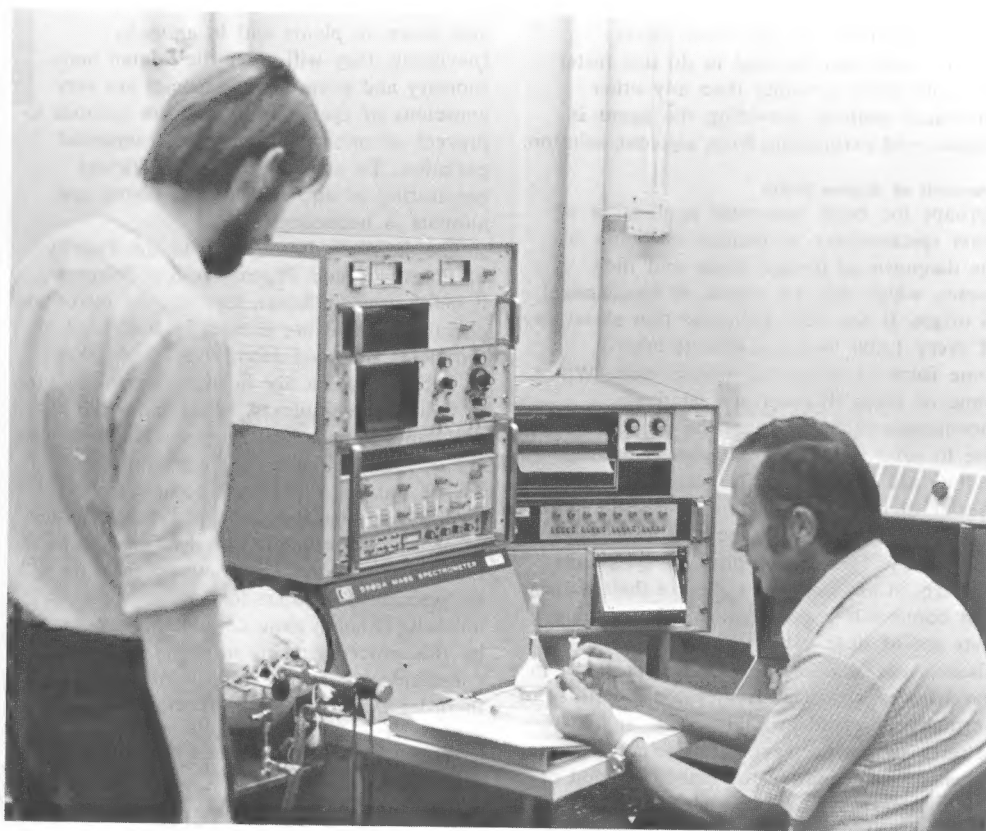
Two mass spectrometers will be used in the Commonwealth Games drug testing program. The purchase of a Hewlett-Packard (HP) 5985A GC/MS/data system, which is

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Folio,
Office of Community Relations
423 Athabasca Hall,
University of Alberta
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T6G 2E8
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G.R. Jones and R.T. Coutts at the desk of the Hewlett-Packard 5981A Gas Chromatograph/Mass Spectrometer in the Faculty of Pharmacy and Pharmaceutical Sciences. This system has been updated recently by the purchase of an HP 5934A data system funded by the Commonwealth Games Foundation.

installed in the University of Alberta Hospital, was funded by the Alberta provincial government. The Commonwealth Games Foundation has agreed to finance the purchase of an HP 5934A data system, to update an existing HP 5981A GC/MS instrument in the Faculty of Pharmacy and Pharmaceutical Sciences at the University of Alberta.

Most urine extracts will be examined on the GC/MS instrument housed in the University Hospital but since each analysis may be a lengthy procedure (up to one hour may be required for complete confirmation of a urine suspected to contain an anabolic steroid), the instrument located in the Faculty of Pharmacy and Pharmaceutical Sciences will be required for some samples. The latter instrument will also act as a back-up facility in the event of equipment failure. Hewlett-Packard engineers will be in attendance for the entire Games period to service the mass spectrometers and the gas chromatographs.

A very important part of each mass spectrometer unit is its powerful data reduction, storage, and retrieval system; each instrument contains an HP 21MX

16-bit mini-computer with a 32K-word memory. During a sample run, complete spectra will be recorded every one to five seconds and data stored on a high capacity dual magnetic disc. After the run is complete, appropriate data will be recalled and displayed on a cathode ray tube (CRT) terminal either as a reconstructed total ion chromatogram (similar to a gas chromatogram trace) or as individual mass spectra. The mass spectrum of the suspected drug will then be interpreted and identified by experienced personnel or compared with authentic reference mass spectra contained in a library which has been built-up over several months from reference materials obtained from various drug manufacturers. Identification of a drug from its mass spectral and gas chromatographic properties is usually conclusive. If, however, there is any doubt about its identity, the extract will be examined further by a technique called chemical ionization GC/MS by which the drug will give a different but still characteristic, mass spectrum. In some instances, chemical derivatization (e.g. methylation, trifluoroacetylation) of a drug

may also be required prior to its examination by GC/MS.

After completion of the Commonwealth Games, both mass spectrometer systems will be used extensively for research projects of clinical and medicinal importance which require the identification and quantitation of compounds often present in trace quantities, in biological or environmental samples.

Drug metabolism studies

The GC/MS system in the Faculty of Pharmacy and Pharmaceutical Sciences has already been used for over three years in drug metabolism studies on amphetamines and other medicinal amines (*Canadian Research*, May-June 1977). It has proved to be a powerful instrument for identifying very small quantities of new drug metabolites which might be difficult or impossible to characterize by other spectroscopic techniques. With the addition of the data system purchased through the Commonwealth Games Foundation, this task will be made easier. Routine data processing, such as the drawing of normalized mass spectra and the correcting of mass spectra for background contribution (e.g. GC column bleed), once a tedious process, is now achieved rapidly and automatically with the addition of the data system.

Drug metabolism studies are required for many reasons. A knowledge of how a drug is enzymatically altered (metabolized) in the body can help explain the toxic side effects the drug may have, and can assist in determining suitable drug dosage and frequency, and can lead to the development of new drugs and to a better understanding of some disease processes. A knowledge of the metabolism of a drug can also be important in assessing the dangers of using that drug in people with kidney or liver dysfunctions since these are the main organs responsible for the metabolism and excretion of drugs. For example, toxic doses of a drug may accumulate in people with liver disease if that drug is quickly inactivated by hepatic metabolism in healthy people. A prior knowledge of such facts would enable a physician to reduce the dose of a drug accordingly.

In vivo drug analysis

An accurate method of quantitation of drug levels in biological fluids is essential in designing the dosage size and frequency of drug administrations and in determining how these factors must be modified for the young or old patient and for persons with kidney, liver or heart disease. Many analytical methods are used for this purpose including gas chromatography, radioimmune assay and high pressure liquid chromatography. However, these methods are sometimes not sufficiently

specific or sensitive, particularly when the drug is present in very low concentrations and endogenous materials in the biological fluid interfere in the assay. In such cases, the mass spectrometer may be used for quantitative analysis, providing the drug is able to be gas-chromatographed. This technique of analysis is called *mass fragmentography*. Usually only one ion in the mass spectrum of the drug is monitored. The abundance of this ion is directly proportional to the amount of drug present. The technique requires the addition of an accurate quantity of a suitable internal standard (reference compound—ideally a ^{13}C or ^2H analog of the drug) and the construction of a calibration plot of known amounts of drug present relative to the quantity of internal standard added. Because the mass spectrometer's time is devoted to monitoring only two masses (one characteristic of the drug; the other characteristic of the added reference compound) instead of approximately 400 for a complete mass spectrum, the *sensitivity* of the instrument is greatly enhanced. Further, because the likelihood of other endogenous materials giving rise to ions of the same two masses being monitored is fairly small, *selectivity* is increased. For these reasons, it is possible to detect and quantitate as little as 0.1 picograms (0.000000000001 gram) of same compounds.

Because the preparation of samples for mass fragmentography is frequently much simpler than for other analyses, routine use of the technique for monitoring blood levels of, for example, antiepileptic drugs (e.g. phenobarbital, primidone) where there is often little difference between an effective and toxic dose, can be quicker and more accurate than conventional methods. The HP 5985A system in the University of Alberta Hospital has the capability to inject extracts of the sample, collect, analyze and store the data, and finally prepare a report without an operator being present. Such a system could obviously be used overnight for routine analyses, freeing it for less routine functions during the day, which might require the presence of a skilled operator. In this way, an extensively automated GC/MS/data system could be used very efficiently.

Identification of poisons

After initial emergency treatment (e.g. gastric aspiration and lavage, emesis) poisoning cases are usually given supportive treatment according to the symptoms shown. Only rarely are antidotes administered, even if the poison is identified. There are instances, however, when, after the crisis period is over, the condition of the patient improves only slowly. In such cases, treatment may be improved

if the poison can be identified. Mass spectrometry may be used to do this faster and with more certainty than any other analytical method, providing the agent is organic and extractable from aqueous solution.

Diagnosis of disease states

Perhaps the most important application of mass spectrometry to clinical medicine is the diagnosis of disease states and their causes, which may be genetic or biochemical in origin. It has been estimated that about five of every 1,000 live-born infants inherit some form of metabolic disease state. Whilst some of these diseases are relatively inconsequential, many may be fatal or give rise to severe mental or physical handicaps if they are not treated (for example by special diets). Many metabolic disease states are difficult to diagnose because they rarely give unique identifiable physical symptoms and are, in any case, so varied in their nature that commonly used biochemical screening tests are of little value. Most metabolic diseases are characterized by the presence in the urine of significantly elevated quantities of normally observed aromatic acids and ketones, or the presence of similar compounds which do not occur in the urine or blood of healthy persons. For example, phenylketonuria is characterized by a deficiency of the enzyme required to metabolize the amino acid phenylalanine to tyrosine. As a result, phenylalanine is metabolized to 3-phenylpyruvic acid which may be detected in the urine. Early detection of the disease and a diet low in phenylalanine can lessen or prevent the mental retardation that would otherwise occur.

Much of the screening work for unusual organic acids or other compounds may be accomplished by using gas chromatography or high pressure liquid chromatography. However, in many instances, these techniques may be insufficiently sensitive or specific due to the large number of other components in most urine extracts. Combined GC/MS can be used to screen for the presence of unusual organic acids or other chemicals which may indicate a disease state. Since mass spectrometry has been used in this field, several new metabolic defects have been discovered, and, as more laboratories become equipped with such equipment, undoubtedly still more will be discovered. After completion of the Commonwealth Games, the GC/MS/data system in the University of Alberta Hospital will be used extensively in the diagnosis of disease states.

Environmental studies

The rapid progress of modern technology has inevitably resulted in pollution of the environment. Toxic industrial chemicals and waste products are present in the air, land

and water, in plants and in animals. Inevitably, they will enter the human body. Industry and government agencies are very conscious of the problem and are anxious to prevent or minimize future environmental pollution. To achieve this goal, efficient monitoring of air, water, land, plants and animals is necessary.

The GC/MS/data system in the Faculty of Pharmacy and Pharmaceutical Sciences is being used to detect, identify and quantitate chemicals which are present in water and sediments obtained from rivers and lakes in Alberta, which are in close proximity to industrial complexes. Many industrial pollutants are present in trace amounts and are of unknown chemical composition. are of unknown chemical composition. presently in progress and will receive greater emphasis on completion of the Commonwealth Games. Once identified, new compounds will be evaluated for their toxicity to laboratory animals. If some toxic compounds are detected by this procedure, this information will be communicated to the appropriate authority in order that the source of the toxic material can be identified.

ALBERTANS TO ATTEND O'NEILL PLAYWRIGHTS' CONFERENCE

John Juliani and Bill Meilen, both of Edmonton, are participating in the month-long O'Neill Playwrights' Conference to be held at the O'Neill Foundation in Waterford, Connecticut, from 9 July to 6 August. Both are part of a fifteen-member Canadian contingent including playwrights, actors, directors, and dramaturges.

The group will be integrated with a similar, but larger, American group. It is the first time that Canadians have been included in the fourteen-year history of the O'Neill Foundation. The purpose of their attendance is to take advantage of the expertise of the Foundation in the development of new plays in order that a national playwrighting conference can be established next year in Canada.

Bill Meilen, who has worked in the television medium since 1954, has just completed a commission by CITV to write a play titled *Song for the Eyes of Tovah*. The play takes place in Warsaw both in the present and in 1938 and deals with a man's memory of his young sister and the relationship they shared through music and the holocaust of World War II. It is "respectfully dedicated to those whose wounds do not show as surface scars." The work will be shown in November of 1978.

Dr. Meilen has also been commissioned to write a forty-episode radio series for CBC.

The series is about "high-echelon chicanery, Indians, oil, uranium, espionage, politics, and what-have-you." Each episode will be ten minutes in duration. The two production centres in Edmonton and Calgary will be employed on alternative weeks for the production of the work, tentatively called "Kelso Country."

EXECUTIVE ELECTED TO CHAIRMEN'S COUNCIL

The following information has been received from T.M. Nelson, Chairman of the Chairmen's Council.

The Chairmen's Committee has been active since 1973 as an ex officio body, growing out of administrative meetings to which Chairmen were invited by the President at that time, Max Wyman. The most recent general meeting of the Chairmen's Committee, 13 April 1978, changed the group's name to the Chairmen's Council. Other changes of a more substantive nature have also taken place; the major change is that the Chairmen's Council now has status as an advisory committee to the President of the University and, through him, to the Board of Governors and divisions of the central administration. This change of status makes it likely that the results of the balloting for election of the Executive of the Chairmen's Council may be of general interest to the University as well as to the Chairmen.

The elections, which are to be conducted annually, are by ballots distributed by mail to the eighty-six members of the Chairmen's Council after the call for nominations has been answered. The election is conducted by retiring members of the Executive. This year's election was conducted by Gerald L. Berry, Chairman of the Department of Secondary Education, who is retiring from the Executive and, shortly, from the University.

The twelve-member Executive is structured in the following way: the candidate receiving the largest number of total votes is named to the chair of the Chairmen's Council; the eight receiving the next highest numbers of votes become the regular members of the Executive; and the next three highest become alternate members of the Executive. Then, at its first meeting the Executive divides itself into three liaison committees, one to each of the University's Vice-Presidents. The Chairman of the Chairmen's Council serves on one of the committees, although not necessarily as its chairman. One alternate member is on each liaison committee.

Several annual meetings are scheduled for the Chairmen's Council throughout the year;

at these meetings the Executive reports to the membership, carries forward business introduced from the floor, answers enquiries and opens discussions on matters that the President, Chairmen's Council Executive, or members introduce. Regular meetings are also scheduled by the three liaison committees with their respective Vice-Presidents. Sometimes the work of the Executive is benefitted by appointment of persons from the general membership to work with it. The twelve-person Executive also serves as the advisory committee to the President at monthly meetings chaired by President Gunning.

In this year's election, Dr. Berry reports a return from balloting greater than seventy percent. The results of the election are as follows:

To the Chair of the Chairmen's Council: T.M. Nelson, Psychology.

To membership on the Executive of the Chairmen's Council: I.A. Campbell, Geography; J.A. Creore, Romance Languages; F.L. Jackson, Bacteriology; G. Maharens, Germanic Languages; E. Waugh, Religious Studies; D.W.S. Westlake, Microbiology; T.H. White, Sociology.

As Alternates on the Executive:

P. Miller, Educational Foundations; B. Pickles, Physical Therapy; and R. Savitt, Marketing and Economic Analysis.

The recent election returned all incumbents who stood for election, plus three new members. Three of the previous Executive had not stood for re-election: one is retiring from the University, another is resigning his chairmanship, and the third did not wish to serve another term.

DANCE AND THE CHILD

"Boss," he said, "I've dozens of things to say to you. . . . I've hundreds of things to say, but my tongue just can't manage them. So I'll dance them for you!"

Nikos Kazantzakis, *Zorba the Greek*
Because movement, for a young child, comes before verbal language, creative dance may well be the most potent and natural form of self-expression for children.

Music and the visual arts require the mastery of certain mechanical skills, and verbalization requires the mastery of language skills. All can be tied together and enhanced through creative dance. Children using dance can give a physical response to rhythm, percussion, and music. Their imaginations encouraged, their perceptions of themselves and their world heightened through dancing, their expression in drawing or modelling become more sensitive, more in touch with reality.

With rich action words—"leaping, flying, hovering, creeping, perching, galloping, pouncing, bouncing, hopping, skipping, freezing, whirling, collapsing"—the dance teacher encourages children to invent their dances and try new movements. At the same time, the children are acting out the words, learning to appreciate their special sounds, and developing a fine sensitivity to poetic expression. By acting out stories in dance, they also learn techniques of dramatic expression.

Since the 1960s creative dance has had an increasing place in physical education programs in elementary schools in particular, and so it has come to have an important place in the University. Although modern dance is taught extensively in the Department of Physical Education, the particular study of dance for children is centred in the Department of Movement Education. Joyce Boorman, Associate Professor in that Department, is its specialist in the area of dance and the child.

Professor Boorman can list a variety of benefits children can gain from dance, not the least of which is the sense of exhilaration and joy that comes "from having the power of control over one's body to say something specific in movement." Creative dance enriches the child's imaginative world, a world too often dulled by an excess of television. It increases the child's knowledge of movements he can create, stimulates him to feel and express a broad range of human emotions, makes him more acutely aware of his sensory environment. As dance



progresses to involve cooperative action with other children, the child's sense of individuality is joined by a sense of belonging, of being an important part of the whole pattern of a dance. Of all physical education activities, dance is one that requires cooperation and group action, that has no place for competitiveness.

Professor Boorman believes strongly in aesthetic education: "I believe in art. My belief is embedded in the fact that the arts are a basic statement of mankind, the expression of our civilization. . . . Art provides new ways of seeing, new ways of knowing, new ways of observing and commenting on our society."

Why dance? "Why music or literature? The violin and the piano make beautiful music together, but each is individual and can't be substituted for the other. Dance and music and painting and literature are all companion forms of art, but each is unique." For children, dance is especially important because of their "non-verbal essence, which cannot be translated into words."

Aesthetic education is closely tied with spiritual education, and dance, she feels, provides a vital spiritual link with the child. "If we can tap the core of a child and bring about change from inside, if we can make him aware and alive, we can give that child a whole new dimension that will last through his life."

"At least," she says, "that is my way, and since I am not unique, then it must happen for other people too."

For the past ten years, Professor Boorman has been the Director of the Children's Creative Dance Theatre at the University. About one hundred children from three to ten years old come to dance classes in the Physical Education Centre on Saturday mornings through winter session and present a family concert at Christmas, when the parents are finally able to see what their children have been learning.

The dance taught at the Children's Creative Dance Theatre is strictly creative—ethnic and social dance and ballet are left to other schools.

"There is a danger common to the world of children's dance, and that is that one can quickly manipulate children to look pretty." One has dreadful memories of the Shirley-Temple-inspired tap dancing lessons inflicted on oneself at the tender age of six—creative dance for children as taught by Professor Boorman and her colleagues has nothing to do with that.

How do you teach children to dance? According to Professor Boorman, "You don't teach them anything: you simply create an environment of words and sounds. There are certain basic families of dances for

children. There is the 'travelling family'—words that make you go and travel and come back. This communicates especially well with children, who are venturing every day a little further and then coming back to the safety of home. Then there is the 'big and little family' because a child is always little and has to have the chance to be big. There is also the 'meeting and parting family' and the 'staying and going family'."

This summer, from 23 through 27 July, Professor Boorman is chairing the first international Conference on Dance and the Child. The Conference, sponsored jointly by the Canadian Association for Health, Physical Education, and Recreation, Alberta Culture, and the University of Alberta, is being held at the University. It will be attended not only by scholars in the field of Dance and the Child, but by performing groups from around the world, both adults who perform for children and children themselves—"we couldn't have a Conference on Dance and the Child without children."

The conference will deal with three general sub-topics: *The Child as Spectator*, to encourage commissioned choreographic work for child audiences, to create a history of dance and a literature of films on the dance for the specific use of children, and in the long run to produce an international literature of dance for the child; *The Child as Performer*, to consider the nature and roles of children as performers and the importance of preserving a dance heritage for the child; and *The Child as Creator*, to foster an understanding of creative dance as an art form and to ensure its inclusion in the educational curriculum of every child.

Although dance has been an important part of the curriculum in British schools since the 1930s and American schools since the 1960s, no conference, to Professor Boorman's knowledge, has ever been held specifically on the subject of dance as it relates to children. "The conference just had to happen," she asserts, "and the advantage of having it coincide with the Commonwealth Games was too good an opportunity to miss."

Her colleagues from around the world, including many of the top people in the field, shared her opinion. Invitations were sent not only through the usual channels but through sixty-six Canadian embassies. Participants, including dance groups, will be coming from Austria, Australia, Belgium, England, Jamaica, Korea, Mexico, Norway, the Philippines, Yugoslavia, New Zealand, Sweden, Scotland, and Cameroun, as well as from across Canada and the United States.

The dance groups that will be performing will include these:

The Harehills and Carnegie Dance Group

consists of twelve children and four adults from an "educational priority program" in Leeds, England. The children are of mixed backgrounds—English, Barbadian, Jamaican, and West Indian, all from inner city districts. Dance for them is an area where they can express themselves and apparently one of the few areas where they have experienced success; more than that, they are very talented dancers indeed, to judge from their reviews. For the past two years these children have danced before television and on stage at every opportunity to raise enough money to fly to Edmonton for the Conference.

The University of Utah Children's Dance Theatre from Salt Lake City, directed by Virginia Tanner, is widely known throughout the United States, having received coverage in several national magazines and on national television and being involved in the White House Conference on Children in 1970. The Dance Theatre, in existence since 1949, consists of well over six hundred children, sixty of whom will be performing in Edmonton at the Conference.

East Anglian Dance Theatre, established four years ago, is based in Ipswich, Suffolk, England. This group emphasizes dance performances for children.

Entre Six Company is a small touring group based in Quebec. The group has many talents, but is especially noted for its programs for children.

The Alberta Ballet Company, founded by Ruth Carse in the 1950s, has grown into a professional touring group, consisting of twelve young dancers.

Carousel is a dance group from the University of Waterloo. It consists of twelve university students and twelve children from nine to fourteen years old, who perform and create works for young children.

Regina Modern Dance Works is a group of seven contemporary dancers who provide workshops for adults and children as well as stage full theatrical presentations. The group has the aim of encouraging people to appreciate and participate in dance by opening up the process of dance-making.

The Ririe-Woodbury Dance Company is heavily involved in the Artists-in-Schools program in the United States. The group consists of six dancers/teachers whose goal is to "the fact that dance is a vital part of life which heightens one's self and cultural awareness."

The Hong Kong Dance Theatre, that will be performing at the Commonwealth Games Festival '78, will also perform for the Conference.

Following each dance performance, there will be panel discussions probing various

considerations of dance and the child as performer, spectator, and creator. Professor Boorman feels that for this first international conference, they have plenty of difficult questions to challenge the participants. "We have to find the right questions before we can give the right answers. The Conference will help us do exactly this."

Perhaps the most pleasant surprise that Professor Boorman received in the course of planning the Conference was the enthusiastic support of Alberta Culture, through its Minister, Horst Schmidt. When approached for a grant of \$10,000 for the Conference, he agreed, but later increased the grant to \$25,000. Moreover, Access Alberta will be producing a complete videotape of the Conference at a cost of about \$44,000.

Throughout the Conference, a film festival of children's dance will be shown, with films from seven countries. At the opening ceremonies, a display will also open depicting children's art and language and attitudes to dance across Canada. This display will continue in the Students' Union Art Gallery throughout the Conference.

The Conference will be a major achievement for Professor Boorman, who has written three books on children and dance and who has produced five films on this subject. Professor Boorman, a recipient of the Queen's Silver Jubilee Medal earlier this year, is recognized both nationally and internationally for her contribution to the growth of the field of children's dance. Philosophically, she believes that one of the most vital contributions that can be made to world understanding, peace, and fellowship is through educating all children in dance, music, art, theatre—those disciplines which are so closely linked with the aesthetic and spiritual growth of the child.

Beginning her career as a physical education instructor in a secondary school in England, she says there came a day when she blew her whistle once to often in the school netball match, and decided there "had to be more to life than that." Thereafter, she developed her interest in movement education and, after assuming her position at the University of Alberta, she specialized in children's dance.

Dance and the Child: Performance Program

Tickets for the various performances being staged for the Dance and the Child Conference may be obtained from Judy Johnson, telephone 433-4360. Admission is \$1 for adults and \$.75 for children. Times and locations of the performances are as follows.

Tuesday, 25 July

10:30 a.m. to 11:30 a.m.: Regina Modern Dance Works, "Goose." Students' Union Theatre. East Anglian Dance Theatre,

"A Dance Performance for Children Age Five to Eight Years," Education Gymnasium. 3:30 p.m. to 4:15 p.m. Entre Six Company, "Three Pieces for a Children's Program" and "Peter and the Wolf." Students' Union Theatre. 4:20 p.m. to 5:10 p.m. Ririe-Woodbury Dance Company, "Dance is for Everybody." Students' Union Theatre.

Wednesday, 26 July

10:45 a.m. to 12 noon. Carousel, "Choreographic Approaches to Dance." Students' Union Theatre.

7:30 p.m. to 9:30 p.m. Hong Kong Dance Theatre. Students' Union Theatre.

Thursday, 27 July

10:30 a.m. to 11:30 a.m. Harehills and Carnegie Dance Group. Students' Union Theatre.

3:30 p.m. to 4:15 p.m. Alberta Ballet Company, "Alice." Students' Union Theatre. East Anglian Dance Theatre, "A Dance Performance for Children Age Eight to Eleven Years." Education Gymnasium. 7:30 p.m. to 9:30 p.m. Children's Dance Theatre (University of Utah), "Tossed and Caught in the Wind." Students' Union Theatre.

Persons who are interested in attending the complete Conference on Dance and the Child may register at the Students' Union Theatre on Monday, 24 July. Additional information, including details about the speakers and their topics, may be obtained from Professor Boorman at 432-2748.

RESEARCH AND DEVELOPMENT IN CANADA

Measures to strengthen and encourage research and development in Canada have received renewed attention across the nation since the Minister for Science and Technology, the Hon. Judd Buchanan first tabled two documents before the House of Commons on 1 June.

The papers dealt with long-term issues and policies for what has now been termed "R&D." The objectives are broad in scope, ambitious in intent. They include: (1) a new national priority to reach a target of 1.5 percent of the Gross Domestic Product for R&D expenditure in Canada by 1983; (2) the use of federal government procurement to stimulate industrial research and development in Canada; (3) the encouragement of greater private-sector spending on research and development and the creation of more job opportunities in science and technology; (4) opening federal laboratories to the private sector to encourage the transfer of technology between government and business; (5) the creation of Industrial Research and Innovation Centres to assist industry, and in particular small

businesses and private inventors; (6) on a regional basis, assisting in the development of Centres of Excellence to build upon the diverse strengths of Canada as a whole and to ensure local expertise and initiative; (7) increased funding for university research in areas of national concern.

The Minister indicated in his report that a healthy effort in the areas of research and development in Canadian industry is of the utmost importance in an international trading environment that is becoming increasingly competitive. As it stands, the level of industrial R&D in Canada is significantly lower than it should be. However, a number of measures have already been taken to correct the situation. There are increased tax incentives for industrial research, and in 1977-78 increased funding of a number of direct assistance programs has been implemented. Other measures include an extension of the contracting-out policy, increased efforts at transferring technology from government laboratories to industry, and the introduction of an employment program in industry for highly-qualified manpower.

Beyond these policies, the federal government now proposes long-range plans for research and development. The procurement practices will be changed to ensure their effective use in support of industrial research and development in Canada. The government is expanding its contracting-out program by adding \$1.5 million in each of the next two years to the Unsolicited Proposals Fund of the Department of Supply and Services that is designed to allow industry to meet the research needs of government.

As a further stimulus to employment in R&D, an additional program involving \$3 million will be instituted for highly qualified manpower under Canada Works. The program will create jobs for unemployed scientific and technical personnel to undertake research projects in universities at the request of Canadian firms. The plan is directed especially toward small businesses that do not as yet have an R&D capacity of their own.

The Minister hopes that greater cooperation between government, industries, and universities will be fostered through the establishment of institutions and the reinforcement of mechanisms specifically devoted to the interchange of ideas, skills, manpower, and technical capability. This will be accomplished in a number of ways: (1) by the addition of \$5 million to the Program of Industry/Laboratory Projects (PILP) of the National Research Council and the extension of the program to other departments;

August 1978

July

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sunday

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27

monday

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■ Civic Holiday. University buildings closed.

14

21

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tuesday

1

■ 9:30 a.m. Meeting of the Campus Development Committee.

8 

15

■ 9:30 a.m. Meeting of the Campus Development Committee.

22

29

wednesday

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9 

16

23

30



*Head of Augustus (obverse)
Eagle standing on globe (reverse)
From the Antiquities Collection of the
Department of Classics.*

thursday

3

- 9 a.m. Meeting of the Academic Development Committee.

10

- 9 a.m. Meeting of the Academic Development Committee.
- 2 p.m. Meeting of the University Planning Committee.

17

- 9 a.m. Meeting of the Academic Development Committee.

24

- 9 a.m. Meeting of the Academic Development Committee.
- 2 p.m. Meeting of the University Planning Committee.

31

- 9 a.m. Meeting of the Academic Development Committee.

friday

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For Commonwealth Games information,
telephone 428-1978.

saturday

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(2) by the expansion of the NRC's Technical Information Service for small businesses through employment of senior students in science and engineering. An amount of \$350,000 will be directed to the program this year;

(3) by establishing a clearing-house role for Canada Patents and Development Limited to facilitate the transfer of information between industry and government laboratories;

(4) by further emphasis on the transfer of technology to industry as an objective of all government research activities.

(5) by the establishment, in consultation with the provinces, of up to five regional university-based Industrial and Innovation Centres (IRIC) over the next few years. An amount of \$2 million will be made available for this purpose this year;

(6) by increasing the budget of the three granting councils by \$10 million for university research. This increase will be for areas of national concern and will supplement the thrust funds provided to the councils for this purpose in 1977-78.

Another important project, the Minister feels, is the establishment of Centres for Excellence across Canada that will be responsive to national needs. One main objective of the Centres will be to achieve better integration of government, university, and industrial research activities.

Some Reactions to R&D

Perhaps the most general reaction to the proposed measures could be summed up in this statement from *The Financial Post*: "[The] proposals are valuable because they mark a firm commitment by the federal government to put priority on an R&D strategy for Canada, something heretofore grievously lacking. And they fit nicely with earlier moves, such as the last budget's special allowance for R&D investment."

In June, the Minister held a discussion in Edmonton during which various members of industry, government, and education aired their views on the policies of research and development. There was general agreement that the proposed measures were vital and necessary, but far too slow in coming.

Much of the discussion centred around R&D as it exists in Canada today. Eric Schmidt of Corporate Communications, Limited, Edmonton, explained that Northern Europe, Peoples' Republic of China, and Japan have made use of such an interface for a long time and with a great deal of success. He singled out, more specifically, Scandinavia where such a support framework exists and where, unlike Canada, the innovative industrialist is not pitted against the large organization. He stated, "It has to do with the history of the West. We don't believe in ideas

—that brains and intelligence are an asset—but that commodities are an asset. So most of our research is still in commodity industries. There has to be a whole new set of R&D orientations for small companies that are Canadian-equity controlled." He also stated that the university researcher is in much the same predicament. The end result is that Canadian procurement policies are oriented toward other countries where the interface between government, the universities, and industry is greater.

On the other hand, research and development in Canada may not be what it seems. Dean Forster of the Faculty of Graduate Studies and Research believes that "the government is letting loose large amounts of money in a rather diverse fashion without clear priorities" and without that interlocking process necessary for the program to work. In addition, the interaction between industry and the university, he fears, has its dangers. "The systems of the two sectors are different. To translate an idea into an actual product becomes very complex. Many things are involved: the Canadian patent system seems to be extremely slow, and industry often does not have the interest, enthusiasm, desire, or capability to turn an idea into a product for the Canadian market." Dr. Forster believes that the major reasons for this include the capital risk factor and the existence of multinational corporations that can afford to do the research as opposed to Canadian companies that do not have that capital. He also suggests that there might be a conflict when university employees do contract research. "Can the university researcher adapt himself to a time-specific legal contract? To some people this would be antithetical to the idea of a university. Too, there is a problem between what universities wish to make public and what industry would insist on keeping secret."

Dean Adams of the Faculty of Engineering is more optimistic. Like Mr. Schmidt, he thinks that there has to be a new set of orientations toward R&D and that university researchers have a vital role to play in industry. They also want to see their research put into practice. "The industrial community is our public and if the university is to be relevant to that public then we have to cooperate with the private sector and, in some cases, take the lead." Although he agrees with Dean Forster that such cooperation will be difficult at first, he suggests that what is important is that the interaction involved in R&D must fit into the framework that the university can provide. It becomes a matter of educating those in industry about the benefits of doing research within the university environment. Dr. Adams cited two

areas on this campus where this is already happening: the Faculties of Agriculture and Forestry, and Medicine.

Dr. Adams, however, sees certain weaknesses in the R&D program and shares some of the fears of Dr. Forster. Most of his criticism rests on the problem of cooperation: Will the federal and provincial governments work together? Will government cooperate with industry? He also is concerned about the continuity of the program and how long it will last. None of the proposals, he feels, are spelled out clearly enough and this could lead to serious problems down the road.

Whatever the benefits or shortcomings of research and development in Canada, it is evident that the various programs will proceed by trial and error. The process will not be a simple one, nor will results happen overnight. The main question centres around the problem of integration. Can three distinct spheres mesh together successfully as they have never done before or, as Dean Forster suggests, is the government pouring out funds for an experiment that may, in the end, prove to be of short duration? At any rate, the pivot point is cooperation.

APPEAL PROCEDURE FOR NON-ACADEMIC EMPLOYEES

The following notice has been received from J.B. Caunt, Director of Personnel Services and Staff Relations.

As a result of the recent decision of the Public Service Employee Relations Board to deny NASA's application for certification and to declare void the 1977-78 Board/NASA Collective Agreement, dispute resolution procedures including grievance procedures in the Board/NASA Agreement are no longer applicable.

As a result of the above, there no longer is a mechanism in place to ensure the neutral adjudication of employee disputes. Until such time as collective representation is again provided, the settlement of employee/management disputes or grievances shall be resolved according to the attached procedure.

These procedures shall take effect immediately and shall replace any appeal procedures formerly covered under the Board/NASA Agreement and shall remain in effect until further notice. The full cooperation of employees and department heads is requested to ensure that the procedures are effectively applied.

The settlement of employee/management disputes or grievances on matters related to the application of Personnel policy, rules and regulations, discipline and termination shall be resolved according to the following procedure:

Step I—Where an employee has a problem or concern related to his employment, he shall take his problem to his supervisor and through discussion with his supervisor, attempt to resolve the issue.

Step II—If the problem is not resolved satisfactorily, the employee shall submit his grievance in writing to the department head, who shall attempt to resolve the dispute to the satisfaction of both parties.

Step III—In the event that the matter is not resolved at Step II, the employee shall state the nature of the grievance in writing to the Director of Personnel, with a copy to the department head and immediate supervisor.

The Director of Personnel will attempt to resolve the dispute in conjunction with the grievor, and the department head or his designee.

Where the dispute is not mutually resolved, the Director of Personnel will make a decision on the dispute.

Step IV—At his discretion, the Director of Personnel may refer the matter for further consideration to a third party neutral.

Initiation of the grievance and subsequent steps shall be dealt with by all parties in the most expedient manner possible.

PEOPLE

- Bruce Bain, Associate Professor of Educational Psychology, and Agnes Yu, graduate student, have published an article entitled "Toward an integration of Piaget and Vygotsky: a cross cultural replication (France, Germany, Canada) concerning cognitive consequences of bilingualism and diglossia," in *Aspects of Bilingualism*, Hornbeam Press, Michael Paradis, ed.
- Among the speakers at the Annual Congress of the Canadian Philosophical Association in London, Ontario, were Associate Professors F.J. Pelletier, Margaret van de Pitte, and F.P. van de Pitte, and Assistant Professors Bruce Hunter and Bernard Linsky. Professor John King-Farlow gave the Presidential Address.
- Robert Busch, Associate Professor of Slavic Languages, read a paper on "Laughter in the major novels of Dostoevsky" at the Institute for Russian Literature in Leningrad.
- M.G. Badir, Professor of Romance Languages, presented a paper entitled "Le Mahomet de Voltaire ou la notion du despotisme absolu" to the Association des Professeurs de Français des Universités Canadiennes (APFUC) during the Learned Societies Conference in London, Ontario.
- On 16 June, John A. Eagle, Professor of History, addressed the Sir Alexander Mackenzie Historical Society, Peace River,

Alberta. The title of his address was "J.D. McArthur and the building of a railway into the Peace River District of Alberta."

■ On 2 June, Abram G. Konrad, Coordinator of the Centre for the Study of Postsecondary Education, presented a paper, "The professional development needs of Canadian university deans," at the annual meeting of the Canadian Association of Deans of Education in London, Ontario.

■ A.G. Konrad, Coordinator for the Centre for Postsecondary Education, directed two workshops on institutional survival at the International Institute on the Community College which was held on 13 and 14 June at Lambton College, Sarnia, Ontario.

■ Jim Shaw, Professor in the Faculty of Extension, recently received the Encyclopedia Britannica Educational Corporations' Golden Anniversary Citation. The Citation is being awarded to institutions and individuals who have made significant contributions to the progress of educational innovation. Professor Shaw's present activities at the University include consultation with academic staff, planning educational media activities, the teaching and programming of courses, and the development of new programs using educational media.

■ Milan V. Dimic, Professor of Comparative Literature, delivered a lecture on "Romantic irony in Serbian XIX century literature" to students of Comparative Literature and of Yugoslav literatures at the University of Belgrade.

■ D.J. Engel, Associate Professor of the Department of Secondary Education, presented a workshop on audiovisual communications at Fairview College, Fairview, Alberta, on 8 and 9 June.

■ C.R. James, Chairman of the Department of Electrical Engineering, recently attended a Fusion Advisory Committee Meeting in Toronto.

■ A. Ng, of the Department of Electrical Engineering attended the Canadian Association of Physicists Conference held in London, Ontario, from 12 to 14 June.

■ Ernest R. Kanasevich, Professor of Physics, has been elected to the executive of Academy III of the Royal Society of Canada. He will serve as Convener of the Earth Science Division and Chairman of the Nominating Committee for new fellows. During this past term he has given invited talks on plate tectonics at the University of Western Ontario and at the University of Waterloo.

■ Raymond J.S. Grant, Associate Professor of English, delivered the closing address at the fifty-third Annual Conference of the Northwest Electric Light and Power Association, Accounting and Finance Section. The conference, whose theme was "Visions

and Decisions," was held in Edmonton on 22 and 23 June, and attracted over two hundred delegates from Idaho, Montana, Oregon, and Washington as well as Western Canada. Dr. Grant's paper was entitled "The ultimate accounting."

■ J.W. Lown, Professor of Chemistry, presented an invited lecture entitled "The mechanism of action of the antitumor antibiotic Bleomycin," at the joint United States-Japan Conference on Antitumor Agents in Honolulu, Hawaii, on 20 June.

■ R.K.C. Thompson received the Canadian Medical Association Medal of Service at the 1978 Annual Meeting in Winnipeg on 21 June. The medal is awarded for significant contribution to the medical profession in Canada. Dr. Thomson retired from the Faculty of Medicine in 1973 as a Clinical Professor.

■ Bruce Collier, Professor Emeritus of Pathology, gave an invited paper at the annual conference of the Canadian Institute of Food Science and Technology which was recently held in Edmonton. He spoke on "Faba beans and favism—a case of natural food chemical" in the symposium on Food 'Chemicals' and Consumer Concerns.

■ Avi Golan, candidate for PhD in the Department of Food Science, won the Graduate Student Paper Award at the twenty-first Annual Canadian Institute of Food Science and Technology Conference held in Edmonton from 25 to 28 June. The paper, "Amino acid analysis by gas liquid chromatography" by A. Golan and F.H. Wolfe was evaluated on its written and oral presentation by the National Awards Committee.

■ The Ambassador of Norway, Knut Hedemann, made a courtesy call to the University and the Department of Germanic Languages on 16 June. His Excellency was on an official visit to Western Canada.

NOTICES

Notices must reach the Editor by 9 a.m. the Thursday prior to publication. Written notification is necessary

Mailing Address and Telephone Number Changed
Folio is now published under the auspices of the Office of Community Relations. The new mailing address is 423 Athabasca Hall, and the telephone number is 432-2325. Those individuals who wish to place an advertisement in *Folio* in person should come to 434 Athabasca Hall.

**General Faculty Council
Committee Vacancies**

The Nominating Committee is seeking nominations for one member of the academic

staff to serve on the following Committees: *Review Committee for the Dean of Rehabilitation Medicine; Selection Committee for a Chairman of the Department of Music; and Review Committee for the Dean of the Faculty of Medicine.*

Regulations governing the composition of the above committees require that one member, not a member of the department concerned, be elected by GFC. Those individuals who have suggestions for nominations or who are interested in serving on one of the above Committees are requested to contact the Secretary of the Nominating Committee, 2-1 University Hall, telephone 432-4715. It would be appreciated if a brief vita could accompany any nomination.

Faculty Tenure Committees

Amendments have now been approved by the Board of Governors and General Faculties Council to the Board-AASUA Agreements requiring that each Faculty shall have a Faculty Tenure Committee; the composition of which is to include a faculty member selected by rotation from a panel of ten faculty members elected by General Faculties Council. The Nominating Committee is therefore seeking nominations for ten faculty members to serve on this panel. Would those persons who have suggestions for nominations or who are interested in serving on the above panel contact the Secretary of the Nominating Committee, 2-1 University Hall, telephone 432-4715. It would be appreciated if a brief vita could accompany any nomination.

Interviewers Required

Starting in September, interviewers are needed for various University research projects operated through the Department of Sociology. Persons with a car and some experience in interviewing are preferred. For further information contact Cliff Kinzel, Population Research Laboratory, 1-62 Tory Building, telephone 432-4659.

Klondike Breakfast

The Non-Academic Staff Association will sponsor a Klondike Breakfast in the Central Academic Building from 8 a.m. to 10 a.m. on 21 July. The price for the Breakfast is \$1.50, and everyone is welcome.

CONVOCATION HALL ORGAN NOW IN PLACE

A major acquisition of the University of Alberta will enter the mainstream of artistic activity on 1 October. On that date, the University community and the public can hear the tracker-action organ which was recently installed in Convocation Hall. Gerhard Krapf of the University's Department of Music will present the inaugural recital and a series of dedication recitals will follow.



The organ is the first of its kind to be installed at a university in Western Canada. The distinctive feature of the instrument is that the connection of keys to pipe valves is mechanical rather than pneumatic or electric. A product of Casavant Frères Limitée of St. Hyacinthe, Quebec, the two-ton organ sits on a reinforced steel platform in the back gallery of Convocation Hall. Tonal adjustments are now being made under the supervision of Professor Krapf.

A freestanding and encased instrument, the \$185,000 organ boasts rich mahogany casing and gleaming pipe work. The three manual key desk gives the organist access to thirty-six speaking stops. Two pedal towers, each in excess of sixteen feet in height, flank the organ.

The quality of the organ will be readily apparent to audiences, says Professor Krapf. He is of the opinion that the organ will sell itself quickly and that its use as an instructional instrument will greatly enhance the study program offered by the Department of Music.

CANADIAN MUSIC COMPETITIONS IN CONVOCATION HALL

The Canadian Music Competitions are scheduled to take place in Convocation Hall from 20 to 27 July. The occasion marks the first time in the twenty-year history of the Competitions that the National Finals will take place outside Quebec.

Admission to each session is \$1, and a series tickets for the entire week, with the exception of the final concert, is \$7. Admission to the Gala Concert is \$5. Tickets are available at the door.



20 July, Thursday

7 p.m. Canadian Piece (eight candidates)

21 July, Friday

2 p.m. Voice (four candidates)

8 p.m. Voice (four candidates)

22 July, Saturday

7 p.m. Voice (six candidates)

23 July, Sunday

2:30 p.m. Strings (seven candidates)

8 p.m. Performance with Orchestra (two candidates)

24 July, Monday

2:30 p.m. Two Pianos (seven candidates)

8 p.m. Performance with Orchestra (three candidates)

25 July, Tuesday

1:30 p.m. Two Pianos (five candidates)

8 p.m. Performance with Orchestra (three candidates)

26 July, Wednesday

10 a.m. Piano (eighteen candidates)

2 p.m. Two Pianos (ten candidates)

27 July, Thursday

8 p.m. *Gala Concert by the three First Prize Winners*

THIS WEEK AND NEXT

Listings must reach the Editor by 9 a.m. Thursday one week prior to publication. Written notification is preferred.

20 JULY, THURSDAY

Cinematheque 16

7:30 p.m. *Siddhartha* (United States/India, 1973). Directed by Conrad Rooks and

starring Shashi Kapoor and Simi Garewal. Downstairs, Edmonton Art Gallery. Admission is \$2 for members and \$2.50 for non-members. Tickets available at the door.

Citadel/National Film Theatre

7:30 p.m. *J.A. Martin, Photographe and Great Grandmother*. Zeidler Hall. For ticket information contact the Citadel Box Office, telephone 425-1820.

Village Cinema

8 p.m. *The Sunshine Boys* (United States, 1975). Directed by Herbert Ross and starring Walter Matthau and George Burns. Students' Union Theatre. Admission for the general public is \$2. Tickets available at the door.

21 JULY, FRIDAY

Faculty Club

Downstairs. Friday buffet: prime rib of beef, baked ham, fresh vegetable, baked potato, salad bar, dessert table, \$5.50.

Upstairs. Klondike dinner dance (7:30 p.m.): cold arctic char mayonnaise, mixed green salad, house dressing, steak Diane, potato, fresh vegetable, dessert table, \$9.95. No regular dinner menu. Reservations required. Entertainment: The David Kaye Show. Klondike attire optional.

Citadel/National Film Theatre

7:30 p.m. *J.A. Martin, Photographe and Great Grandmother*. Zeidler Hall. For ticket information contact the Citadel Box Office, telephone 425-1820.

Village Cinema

8 p.m. *All The President's Men* (United States, 1976). Directed by Alan J. Pakula and starring Dustin Hoffman and Robert Redford. Students' Union Theatre. Admission for the general public is \$2. Tickets available at the door.

22 JULY, SATURDAY

Faculty Club

Downstairs. Saturday buffet: cornish game hen with paprika sauce, buttered noodles, fresh vegetable, salad bar, dessert table, \$5.50.

Upstairs. Klondike breakfast (10 a.m. to 2 p.m.): orange juice, tomato juice, bacon, sausages, ham, cucumbers, tomatoes, cottage cheese, eggs, pancakes, fresh fruit, \$4.50 adults, \$3 children. Entertainment: Gold Diggers Barbershop Quartet. Klondike attire optional.

Upstairs. Chef's special: vichyssoise, romaine salad, rack of lamb, fruit rice, fresh vegetable, dessert, tea, coffee, \$7.95. Also regular dinner menu. Reservations required. Regular dining in Papaschase only.

Village Cinema

8 p.m. *Looking for Mr. Goodbar* (United

States, 1977). Directed by Richard Brooks and starring Diane Keaton and William Atherton. Students' Union Theatre. Admission for the general public is \$2. Tickets available at the door.

23 JULY, SUNDAY

Cinematheque 16

2:00 p.m. *Siddhartha* (United States/India, 1973). Directed by Conrad Rooks and starring Shashi Kapoor and Simi Garewal. Downstairs, Edmonton Art Gallery. Admission is \$2 for members and \$2.50 for non-members. Tickets available at the door.

Village Cinema

8 p.m. *Looking for Mr. Goodbar* (United States, 1977). Directed by Richard Brooks and starring Diane Keaton and William Atherton. Students' Union Theatre. Admission for the general public is \$2. Tickets available at the door.

24 JULY, MONDAY

Chaplains' Film Series

7:30 p.m. *Les Ordres*. P126 Physics Building. Series tickets for remaining two films is \$3. Tickets available at the HUB Box Office, the Chaplains' Office, and at the door.

25 JULY, TUESDAY

Get to Know the Law

7:30 p.m. "Wills and Estates." Fourth in a series of lectures dealing with aspects of the law. Music Rooms, Centennial Library. Admission is free.

26 JULY, WEDNESDAY

Citadel/National Film Theatre

7:30 p.m. *The Song Remains The Same* (United States, 1976). Directed by P. Clifton and starring Led Zeppelin.

9:45 p.m. *Jimi Hendrix* (United States, 1973). A documentary directed by Joe Boyd and John Head. Zeidler Hall. For ticket information contact the Citadel Box Office, telephone 425-1820.

27 JULY, THURSDAY

Citadel/National Film Theatre

7:30 p.m. *The Song Remains The Same* (United States, 1976). Directed by P. Clifton and starring Led Zeppelin.

9:45 p.m. *Jimi Hendrix* (United States, 1973). A documentary directed by Joe Boyd and John Head. Zeidler Hall. For ticket information contact the Citadel Box Office, telephone 425-1820.

Cinematheque 16

7:30 p.m. *Walkabout* (Great Britain/Australia,

1971). Directed by Nicholas Roeg and starring Jenny Agutter and Lucien John. Downstairs, Edmonton Art Gallery. Admission is \$2 for members and \$2.50 for non-members. Tickets available at the door.

28 JULY, FRIDAY

Faculty Club

Downstairs. TGIF buffet: prime rib of beef, baked ham, potato, fresh vegetable, salad bar, dessert table, tea, coffee, \$5.50.

No grill service.

Upstairs. Chef's special: gazpacho, heart of lettuce salad, breast of chicken kiev, potato, fresh vegetable, dessert table, tea, coffee, \$7.95. Also regular dinner menu. Reservations required.

Village Cinema

2 p.m. and 8 p.m. *Straight Time* (United States, 1978). Starring Dustin Hoffman and Teresa Russell. Students' Union Theatre. Admission for the general public is \$2. Tickets available at the door.

Cinematheque 16

7:30 p.m. *Walkabout* (Great Britain/Australia, 1971). Directed by Nicholas Roeg and starring Jenny Agutter and Lucien John. Downstairs, Edmonton Art Gallery. Admission is \$2 for members and \$2.50 for non-members. Tickets available at the door.

Citadel/National Film Theatre

7:30 p.m. *Performance* (Great Britain, 1970). Directed by Donald Camell and Nicholas Roeg and starring James Fox and Mick Jagger. Zeidler Hall. For ticket information contact the Citadel Box Office, telephone 425-1820.

South Side Folk Club Concert

8 p.m. The Orange Hall, 89 Avenue and 104 Street. Entertainment: Gaberlunzie from Glasgow, Scotland and Claddagh's Answer, Calgary. Members \$3, non-members \$3.50. For ticket reservations telephone 475-1042.

29 JULY, SATURDAY

Faculty Club

Downstairs. Barbecue your own: rib eye steak, potato, fresh vegetable, salad bar, dessert table, tea, coffee, \$6.50. No grill service.

Upstairs. Chef's special: boula-boula, cucumber salad, scallops, sauce mornay, rice, fresh vegetable, dessert table, tea, coffee, \$7.95. Also regular dinner menu. Reservations required.

Village Cinema

2 p.m. and 8 p.m. *King Kong* (United States, 1976). Directed by John Guillermin and starring Jeff Bridges and Jessica Lange. Students' Union Theatre. Admission for the general public is \$2. Tickets available at the door.

Cinematheque 16

7:30 p.m. *Walkabout* (Great Britain/Australia, 1971). Directed by Nicholas Roeg and starring Jenny Agutter and Lucien John. Downstairs, Edmonton Art Gallery. Admission is \$2 for members and \$2.50 for non-members. Tickets available at the door.

Festival 78 "Concert Series"

Commonwealth Dance Gala featuring: Lynn Seymour, Prima Ballerina of the Royal Ballet; the Hong Kong Schools Chinese Dance Team; State Dance Ensemble of Sri Lanka; Montreal's Entre-Six, Alberta Ballet. Jubilee Auditorium. Tickets available at all Woodward's stores and the HUB Box Office.

EXHIBITIONS AND PLAYS

Festival 78

From 24 July. The Alberta Art Foundation has assembled the "Alberta Art Foundation, 1978 . . . an exhibition to commemorate the 1978 Commonwealth Games." On display at the Jubilee Auditorium.

Games Foundation

Continuing. "The Commonwealth Sculpture Symposium," an exhibition of wood and metal sculpture for the Commonwealth Games Festival 78. Main quad on the University of Alberta campus and at the Fine Arts Building.

Students' Union Art Gallery

From 21 July. *Alberta: Self Portrait*, an exhibition of student paintings, print making, and drawings.

University Art Gallery and Museum

Continuing. An exhibition of Indian and Inuit artifacts and clothing from the Edwards and Lord Collections.

Provincial Museum

Continuing. "The Spirit of the Windships," an exhibition on the ships and ship-building of the nineteenth century.

Continuing. "The Art of the First Australians," aboriginal paintings, sculptures, and artifacts.

Continuing. "The Legacy: Contemporary British Columbia Indian Art," an exhibition of art and artifacts representative of the lifestyle and culture of the West Coast Indians.

Continuing. "Sports in Alberta," an exhibition featuring photographs and manuscript material from the Provincial Archives.

Rice Gallery

To 22 July. "Juliani's Folly," an exhibition of paintings and drawings by Cecile Szaszkiwicz. Rice Foyer of the Citadel Theatre.

Edmonton Art Gallery

Continuing. "Modern Painting in Canada," examining the development of modernist

painting in Canada from the early twentieth century to 1970.

Continuing. "The Commonwealth Print Portfolio." A selection of prints from Commonwealth artists and documentation on the print-making techniques used and on the artists involved.

Games Foundation

Continuing. "The Fine Arts of Alberta Craft," an exhibition of contemporary craft assembled for the Commonwealth Games Festival 78. Shctor Theatre Lobby, Citadel Theatre.

Centennial Library

Continuing. "Sporting Life in Early Canada," an exhibition of twenty-five color prints on the sporting life of early Canadians. Foyer Gallery.

To 30 July. An exhibition of photography by Art Carlyle. Photography Gallery.

Devonian Botanic Garden

A collection of native and introduced plants used for teaching and research, located 9.7 km west on highway 16 and 14.5 km south on highway 60. Open from 1 p.m. to 6 p.m. daily. Day lilies, forget-me-nots, potentillas, and delphiniums in bloom.

Alberta Barter Theatre

To 30 July. Ira Levin's *Critic's Choice*. Outdoors in the courtyard beside Corbett Hall at 9 p.m.

Walterdale Theatre

To 29 July. *Adrift In New York*. Directed by Judy Unwin. Please note that the performance originally scheduled for 30 July has been cancelled. For ticket information and show times contact the Citadel Box Office, 425-1820.

Theatre du Centre F.J.A.

Continuing. *Cirque ou Bedon*. A play for children between the ages of five and thirteen. Music Room. Centennial Library Theatre. Admission is free. For further information telephone 469-0118.

NON-CREDIT COURSES

The courses listed below are offered under the auspices of the Faculty of Extension. Registrations may be made and information concerning the instructors and contents of the courses may be acquired at 228 Corbett Hall or by telephoning the number at the end of each listing.

**ENGLISH AS A SECOND LANGUAGE:
ADVANCED WRITING COURSE**

Designed to help students whose first language is not English, a morning and an evening course will teach skills necessary for writing papers and examinations at the post-secondary level. Courses include: data gathering, logical

organization of material, acceptable forms of footnotes and bibliography. Principles of composition will be stressed and a review of grammar and style will be presented as needed. Essays will be written both in class and at home.

The evening course begins 18 July and will be held on Tuesday and Thursday from 6 p.m. to 9 p.m. for six weeks. The morning course will commence 31 July and be held Monday, Wednesday, and Friday from 9 p.m. to 12 noon for four weeks. *Fee:* \$55, includes textbooks. Registration is limited to 25 in each class. *Telephone* 432-2497 or 432-3036.

POSITIONS VACANT

Part Time Academic Position*Assistant to the Dean of Students*

The Assistant to the Dean of Students resides in Henday Hall, a 600-student men's residence located within the Lister Complex. The Assistant to the Dean represents the University administration in the conduct of student affairs in the residence serving as an adviser to the student government and working in close coordination with the Department of Housing and Food Services and the various student services on campus. The candidate should have experience in student affairs, counselling, or University administration.

Résumé and *curriculum vitae* should be sent to: Assistant to the Dean of Students, 051 MacKenzie Hall, Lister Complex, University of Alberta, Edmonton, T6G 2H6. Further information may be obtained by calling 433-4719 or 432-2968.

Non-Academic Positions**Secretary II**

\$11,928-\$12,816 per annum
Required immediately for the Nursing Department. Minimum typing of 60 wpm; dictaphone and medical terminology is necessary; shorthand desirable. Must have at least one year of related experience.

Clinical Trials Secretary II

\$994 per month
Required immediately to participate in clinical trials at the Cross Cancer Institute with two medical staff members to carry out various types of skin tests and collect specimens for research. Preference will be given to a nurse with secretarial background.

Clerk I

\$9,972-\$10,740 per annum
Two positions available immediately for file clerks. General knowledge of basic filing required; familiarity with medical terminology desirable.

Research Technician II

Required to assist the Senior Radiation Chemist in carrying out experiments involving the techniques of synthetic and analytical organic chemistry. BSc or technical certificate in the field of organic chemistry essential; familiarity with instrument electronics desirable.

For all of the positions, apply to:
Personnel Department
Cross Cancer Institute
11560 University Avenue
Edmonton
T6G 1Z2
Telephone 432-8587

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, third floor, SUB, telephone 432-5201. Please do not contact the department directly. Positions available as of 14 July.

Clerk (\$695-\$748)—Personnel Services and Staff Relations
 Sales Clerk (\$695-\$748)—Bookstore (two positions)
 Clerk Typist II (\$695-\$803)—Office of Administrative Systems; Education Media, Extension; Provincial Laboratory
 Library Clerk (\$695-\$830, term)—Music
 Clerk Steno II (\$695-\$830)—Canadian Institute of Ukrainian Studies; Faculty of Extension; Geography
 Dental Records Clerk (\$748-\$895, term)—Dentistry
 Clerk Typist III (\$748-\$895)—Soil Science; Pharmacy; Office of the Registrar
 Senior Clerk (\$748-\$895)—Parking Services
 Bookkeeper II (\$386-\$465, half-time)—Home Economics
 Purchasing Clerk II (\$772-\$929)—Physical Plant
 Clerk Steno III (\$772-\$929)—Civil Engineering; Home Economics; Psychology; Electrical Engineering; Mineral Engineering; Provincial Laboratory; Office of the Registrar; Library Science
 Data Entry Operator I (\$772-\$929)—Computing Services
 Programmable Typewriter Operator II (\$803-\$969)—Personnel Services and Staff Relations
 Admission Records Trainee (\$803-\$969)—Office of the Registrar (three positions)
 Secretary (\$863-\$1,053)—Devonian Botanic Gardens; Movement Education; Canadian Institute of Ukrainian Studies
 Library Assistant II (\$895-\$1,096)—University Archives; Music
 Departmental Secretary (\$969-\$1,192)—Dean of Education; Anatomy
 Computer Assistant I (\$695-\$830)—Computing Services
 Laboratory Assistant II (\$721-\$863)—Provincial Laboratory (two positions)
 Laboratory Assistant II/III (\$721-\$969, trust)—Anatomy
 Laboratory Assistant III (\$803-\$969)—Anatomy (two positions)
 Building Services Worker II (\$803-\$969)—Housing and Food Services, HUB
 Storeman II (\$863-\$1,053, term)—Chemistry
 Public Relations/Publications Assistant I/II (\$863-\$1,243)—Computing Services
 Electron Microscope Technician I (\$895-\$1,096, trust, term)—Medicine, Neurology
 Biology Technician (\$895-\$1,096, trust)—Genetics
 Technician I (\$895-\$1,096, trust)—Pediatrics; Medicine, Rheumatic Diseases
 Technician II (\$895-\$1,096)—Mechanical Engineering
 Curriculum Technician I (\$895-\$1,096)—Audiovisual Media Centre
 Technician I/II (\$895-\$1,243)—Provincial Laboratory
 Graphics Technician I/II (\$895-\$1,243)—Technical Services
 Maintenance Man II (\$969-\$1,192)—Housing and Food Services
 Security Officer I (\$1,009-\$1,243)—Campus Security
 Electron Microscope Technician II (\$1,009-\$1,243, trust, term)—Medicine, Neurology
 Electron Microscope Technician II (\$1,009-\$1,243, trust)—Anatomy
 Technician II (\$1,009-\$1,243)—University Collections
 Programmer Analyst I/II (\$1,009-\$1,476)—Printing Services
 Art Technician Demonstrator I (\$1,096-\$1,354)—Art and Design
 Maintenance Worker II Charge Hand (\$1,192-\$1,476)—Physical Plant, Projects Division
 Engineering Technologist III (\$1,243-\$1,543)—Physical Plant, Engineering

Nurse Practitioner (\$1,415-\$1,759)—Pediatrics

The following is a list of currently available positions in the University of Alberta Libraries. The bulletin board in 516 Cameron Library, should be consulted for further information about position requirements and availability.

Library Clerk III (\$748-\$895)—Education Library

ADVERTISEMENTS

All advertisements must be received by 9 a.m. the Friday prior to publication. Rate is 15 cents per word for the first week and 5 cents per word for subsequent weeks ordered before the next deadline. Minimum charge is \$1. Ads must be paid in advance and are accepted at the discretion of the Editor. We regret that no ads can be taken over the telephone. For order forms or further information, telephone 432-2325.

Accommodations available

For sale by owner—1,756-square-foot home in executive Blue Quill. Fully carpeted, four-bedroom split level home includes 2½ baths, main-floor family room with tyndalstone fireplace and patio doors, bright, airy kitchen, spacious living and dining room, and impressive entrance foyer. This beautiful home also has a double garage and is located on a large landscaped lot. Telephone 436-3617 or 425-0110, extension 205.
 Renting—Belgravia: four-bedroom house; two-car garage, breezeway, two fireplaces, beautifully furnished, two bathrooms, study, family room, large kitchen, dining room, living room, playroom, five appliances, wine cellar, mature trees, private patio, lawn mower, bicycles. 4½ minutes University; 14 minutes downtown. Available one year, September 1978. For appointment telephone 434-9784. No agents.
 For sale—22 x 24 cottage next to Thunder Lake Provincial Park. \$18,500. 963-3453.
 For sale—Belgravia: beautiful three-bedroom home within walking distance of the University and schools; open brick fireplace, den, and finished basement; second bathroom off master bedroom. Immaculate condition, superb park-like garden with lovely mature trees. A joy to live in. No agents please. 437-0482.
 For rent—for one year from September: new St. Albert executive home; four bedrooms, family room, double garage. Furnished or unfurnished 458-7851, evenings or weekends.
 For sale—former show home. Two-storey; unique master bedroom suite, intercom, central vacuum, air conditioned, all kitchen appliances. Vendor transferred. Liz Crockford, Spencer Real Estate, 436-5250; 434-0555, residence.
 For rent—September, October: three-bedroom main floor of house. 469-9229.
 Ideal, quiet home for student with own transportation. Must love cats. Telephone Joan, 427-2901; 451-3384.
 For sale—in old Riverbend. \$129,900. Four bedrooms, large kitchen adjoining family room, fireplace, double garage. 2½ baths, separate laundry room. Quiet location convenient to schools, University. Telephone Liz Crockford, 434-0555 (residence); Denise Rout, Spencer Real Estate, 436-5250.
 For sale—Windsor Park (half block to campus); 1,215 square feet. Owner. \$136,900. No agents. 439-3725.
 For sale in quiet Pleasantview. This older, comfortable split level house presents a park-like setting in the back yard; 1,500 square feet of living space features a large living room - dining area, three

bedrooms, kitchen with nook, two 3-piece bathrooms, full rumpus room, single attached garage. \$119,500, asking price. Colin Dykes, Royal Trust, 435-4869.

Exchange for Ottawa house near downtown or Ottawa University (or rent \$500 monthly) 1 September 1978 - 1 May 1979. Two storey, 1,400 square feet, 2 - 3 bedrooms, all appliances, furnished, garage, quiet street, large trees. Block from University. 10939 89 Avenue. 432-0780.

For rent—15 August 1978. Four-bedroom two-storey house in Riverbend. Main floor family room, fireplace, developed basement, two-car attached garage, drapes. Damage deposit and references. \$700. 434-2527.

For sale—beautiful bungalow in Beau Park. Charming two-bedroom home with hardwood floors, very spacious rooms. Lovely, large trees frame this ideally located home. For viewing, telephone Faye Lund, Block Bros. Ltd. 436-4240 (business); 436-5355 (residence).

For rent—September 1978 to August 1979. Mill Woods. Three-bedroom bungalow, sunken living room with fireplace; double garage pad, patio; four major appliances. Partly furnished; 1,200 square feet with separate dining room; carpeted throughout. \$500 monthly. References. 462-2007 after six.

For rent—available 1 September. Four-bedroom bungalow, Rio Terrace; partly furnished, fully carpeted, fireplace, two baths, family room, single garage, well-treed lot, quiet street. Non-smokers. \$500 monthly. Telephone 487-2709 evenings.

For rent—11016 153 Street. Three-bedroom bungalow. 1 September 1978 to 31 August 1979. \$450 monthly. A. Meyers, 432-3668, days.

For sale by owner—three-bedroom bungalow with rented one-bedroom basement suite. 11016 153 Street. Double garage with electronic door opener and attached enclosed patio; 1,080 square feet; lot: 51 x 115. A. Meyers, 432-3668, days.

For sale by owner—East Edmonton. Three-bedroom condominium; five major appliances, two carports; near bus, mall, school. Abbottsfield Road. Asking \$48,900. Telephone 479-1056 after 6 p.m.

For sale—\$33,900. Condominiumized walk-up apartment near University of Alberta. One bedroom; clean, and freshly decorated. 6805 112 Street. Good investment. 90% financing possible. For further information please telephone Pat Poscente, 467-5511. Graham Realty. Residence: 467-8413.

For sale by owner—Glenora (ten minutes from University via Groat Road) bungalow with 2 bedrooms, rumpus room, half bath in basement; formal dining room. Beautifully landscaped. \$91,500. 452-3127.

For sale—a gracious foyer welcomes you to this elegant, custom-built, front-split Westbrook Drive home. Large Dreger-designed kitchen, formal dining room, main floor laundry, and two fieldstone wall-size fireplaces are some of the features. For viewing, telephone Faye Lund, 436-4240; 436-5335. Block Bros.

For sale—two-bedroom deluxe condominium in prestige highrise, air-conditioned, covered parking, indoor and outdoor swimming pools; no restriction on pets. Good financing; reduced to sell. Ivor Williams, Royal Trust. Telephone 435-4869; 433-7715.

For sale—choice west end location: large open-beam bungalow; three bedrooms, three baths, two fireplaces. Resi Richter, 455-4135; 483-9432. Weber Bros.

Renting—three furnished rooms, two blocks from campus. All home comforts. Couples or singles. Non-smokers. Janet, 439-3044; 5 - 11 p.m. and weekends.

For sale—in quiet Petrolia area: sunny

three-bedroom split; 1½ baths, rumpus room, large kitchen. Mature trees. \$84,900. Telephone Reina, 435-4869; 436-2556. Royal Trust.

For rent—three-bedroom condominium, Mill Woods; 1½ baths. Twenty minutes to University. \$400. Telephone 462-0645.

For sale—Riverbend. Early possession. Exceptional three-bedroom bungalow; beautifully designed basement development, raised patio, two open fireplaces, wet bar, main floor utilities, large professionally landscaped yard; double garage; air conditioning. \$128,900. Reina Proudfoot, 435-4869; 436-2556. Royal Trust.

Renting—three-bedroom bungalow, Sherwood Park; double garage. Available 1 September. 465-0687; 922-2417.

For rent—Windsor Park executive bungalow; unfurnished, three bedrooms, two fireplaces, rumpus room, extra bedroom, and bath in basement. Double garage. Excellent location. \$675 monthly. Telephone 434-8114 or 436-2556.

For sale—Valleyview. Enjoy the feeling of spaciousness in this executive two-storey. Resi Richter, 483-9432; 455-4135. Weber Bros.

Will trade five-acre Vancouver area lot for parcel of similar value in west Edmonton region. Lot is in Belcarra Park area, two miles north of Simon Fraser University, overlooking Bedwell Bay. Or will sell. Asking \$75,000; terms available. Telephone 487-3310 after 4 p.m., weekdays or weekends.

Accommodation wanted

Visiting professor and wife require fully, or partly, furnished one-bedroom accommodation for six-seven months beginning 1 September. 435-0374. Professor requires one-bedroom suite within walking distance of University. Not exceeding \$275. 439-1433, evenings.

Automobiles and accessories

1976 Corvette four-speed; 8,000 miles. 489-5813.

For sale—1969 American Motors Ambassador. Telephone 435-0250, evenings.

1977 Granada Ghia two-door hardtop; air conditioning; sun roof; most other options. 434-6568.

1974 Volkswagen Super-beetle; 39,000 miles; excellent condition. Offers. 435-9647 after 6 p.m., or weekends.

1969 Porsche 912. Leaving country. \$5,700. 434-9784 for appointment.

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Antiques from England. Furniture—all periods: tables, chairs, sideboards, cabinets, stools. Porcelain: Derby, Doulton, Wedgwood, Dresden, Oriental, Art Nouveau, art deco, commemoratives, cloisonné, dolls, clocks, jewellery, gifts, collectables. We also buy these items. Mary Goulden Antiques. From 137 Avenue and 50 Street, drive five miles northeast, then 1½ miles east to Horsehill Hall. 1-8 p.m., Thursday, Friday, Saturday, Sunday. 973-3656 or 475-8139.

Master Painters—five years' experience. No job too large or small. Specializing in prompt service. 434-4833.

Alpha Elementary School—child-oriented program stressing individuality, parental involvement. Begins this fall. Telephone 437-0726.

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Typing done in my home. Telephone 476-2337.

Leaving Edmonton? Need space for furniture, car, etc.? Mini Storage. From \$5 weekly. 425-1723; evenings, 467-0586.

Eighteen- to thirty-year-old male participants required for experiment to be conducted in Biological Sciences Building. Study takes one hour. Participants paid \$3. Non-smokers preferred. Telephone John or Pat at 432-2909 (days); or John at 436-9085 between 7 p.m. and 9 p.m. Both numbers available Monday-Thursday only.

Michener Park Day Care has vacancies for summer and winter sessions for children 3-5 years old. For information telephone (403) 434-4010 (Centre); or 437-0872 (Director) after 5:30 p.m.

Good Neighbour Fence Company—Quality wood fences, patio decks, light construction. 433-6794 or 433-9764.

Two polar bear rugs; full head mount; good condition. 435-0592; 434-0555.

Babysitter required in university-area home for six-month old infant. Hours: Monday to Friday,

7:30 a.m. to 5 p.m. Start September. Nonsmoker only. Telephone 434-3657.

For sale—registered Norwegian Elkhound puppies. Telephone 487-6397, evenings.

Must sell—maple-trimmed chesterfield and chair; queen size posturopedic bed; French provincial dresser; desk and bookcases; quality stereo equipment; camping and skiing equipment; skis, 175 cm, 160 cm; boots: woman's 7½ B, man's 8½ M. All reasonable offers considered. Telephone 488-9207.

Speech Arts lessons: oral interpretations and voice production. Beginners and intermediates. Esther Wilcox Hudson, 469-2147.

Piano—Yamaha M1A, walnut, excellent condition. \$1,900. Susan, 432-3680 or 435-8692.

Text processing consulting, especially computer typesetting using MTS/TEXTFORM. Telephone Vic Yanda, 487-3310 after 3 p.m. weekdays.

Mountain wilderness holiday at the Black Cat Ranch near Jasper. Two-day weekend, \$50, including meals and room. Write: c/o PB Guest Ranch Ltd., Box 542, Hinton, Alberta, T0E 1B0, or telephone 452-0710.

Do you want to start a publishing business? Printing press for sale, rent, or for use in business for share of revenue: A.B. Dick model 360 press, and also model 1100 platemaker; three years old, but only used eight months. Telephone 487-3310 after 4 p.m. weekdays, or weekends.

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